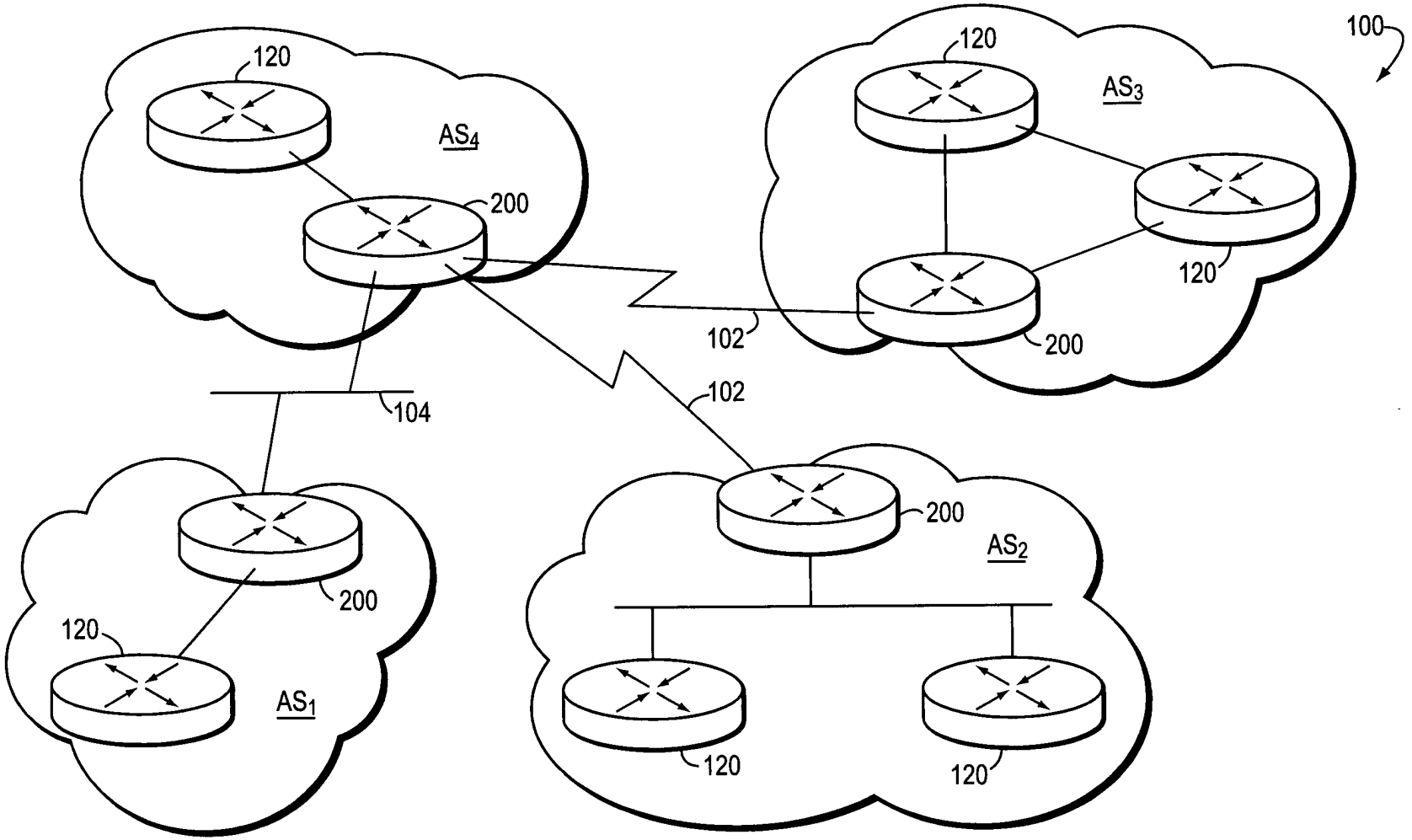
100
120
AS4
200
120
AS3
120
200
102
102
104
200
120
AS1
200
AS2
120
120

FIG. 1

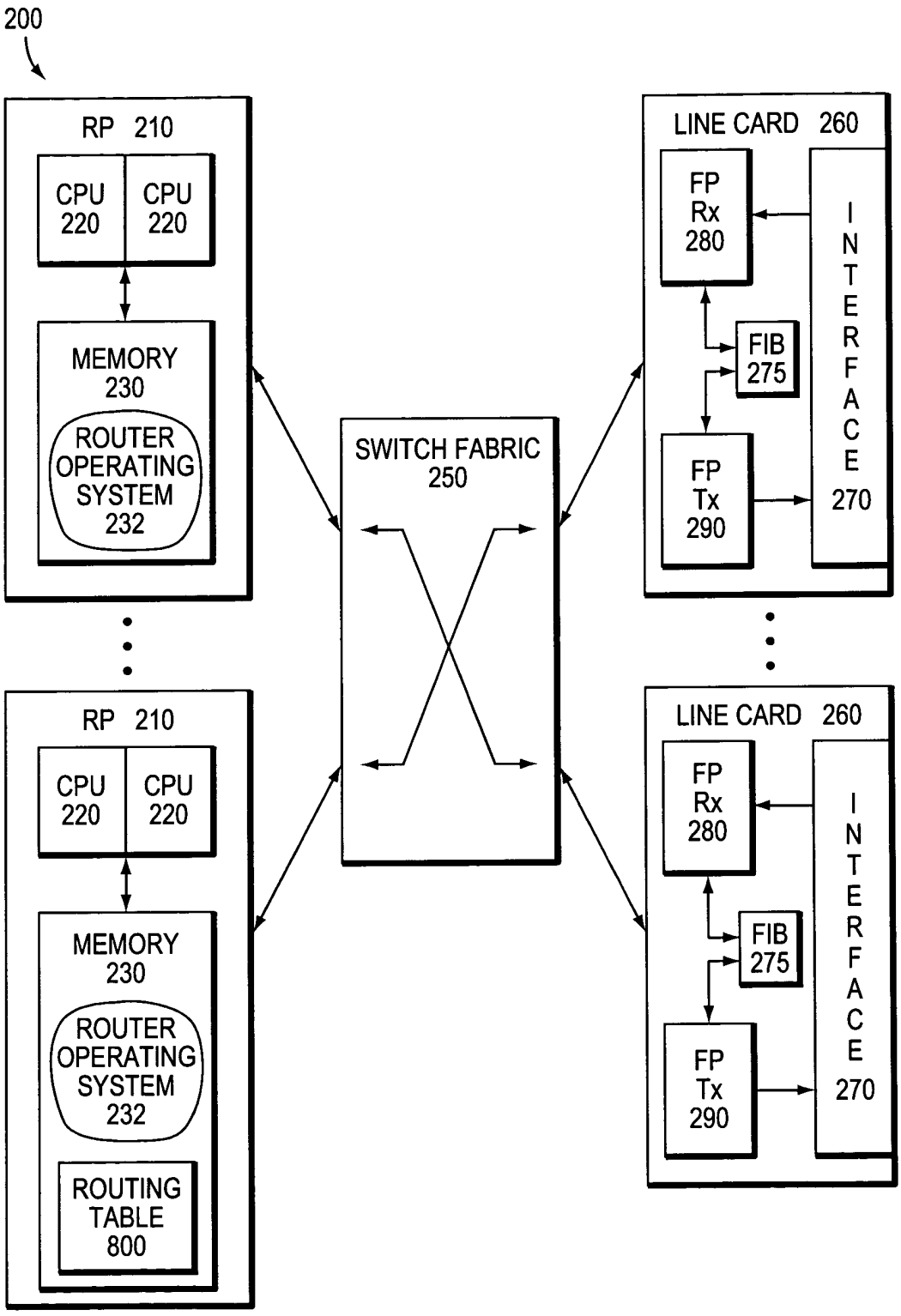
200
RP 210
CPU 220
CPU 220
MEMORY 230
ROUTER OPERATING SYSTEM 232
RP 210
CPU 220
CPU 220
MEMORY 230
ROUTER OPERATING SYSTEM 232
ROUTING TABLE 800
SWITCH FABRIC 250
LINE CARD 260
FP Rx 280
FIB 275
FP Tx 290
INTERFACE 270
LINE CARD 260
FP Rx 280
FIB 275
FP Tx 290
INTERFACE 270

FIG. 2

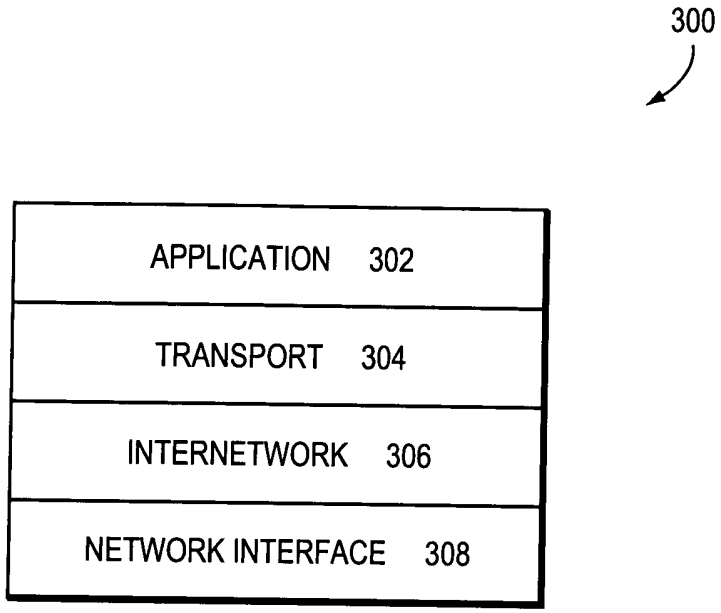
300
APPLICATION 302
TRANSPORT 304
INTERNETWORK 306
NETWORK INTERFACE 308

FIG. 3

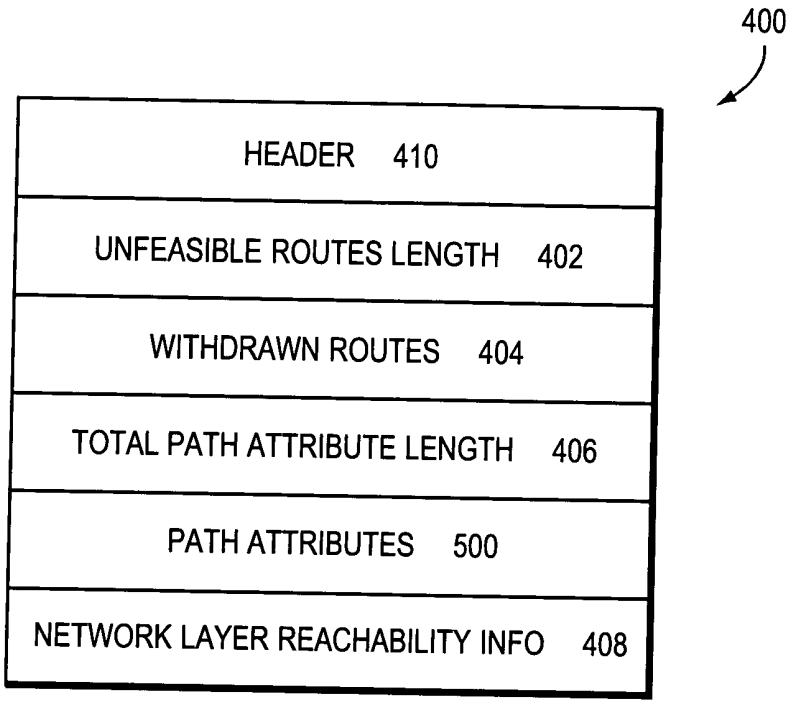
400
HEADER 410
UNFEASIBLE ROUTES LENGTH 402
WITHDRAWN ROUTES 404
TOTAL PATH ATTRIBUTE LENGTH 406
PATH ATTRIBUTES 500
NETWORK LAYER REACHABILITY INFO 408

FIG. 4

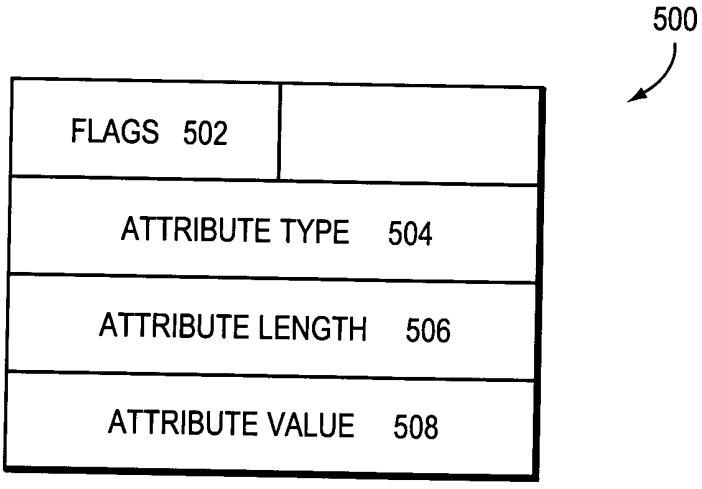
500
FLAGS 502
ATTRIBUTE TYPE 504
ATTRIBUTE LENGTH 506
ATTRIBUTE VALUE 508

FIG. 5

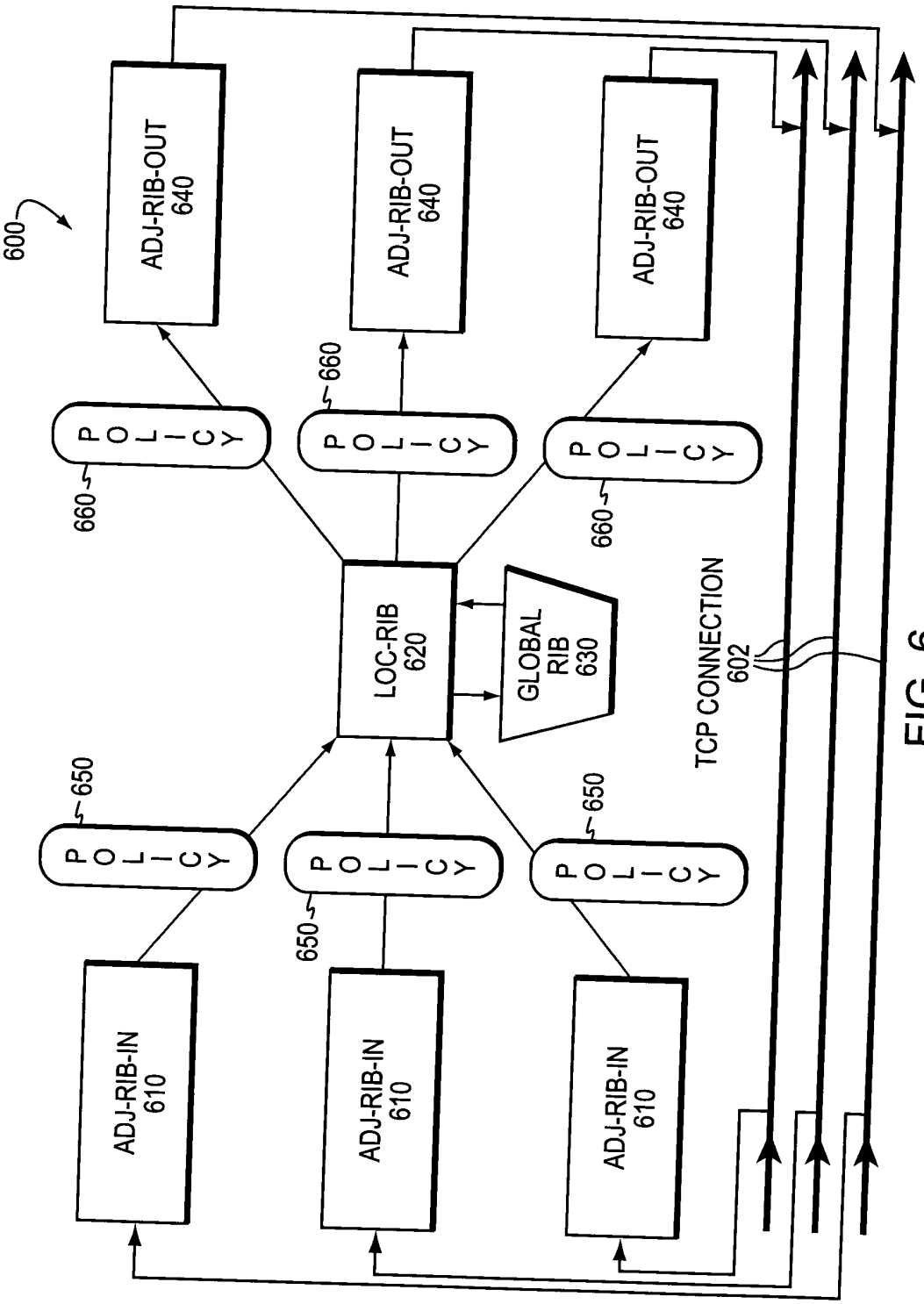
600
ADJ-RIB-IN 610
ADJ-RIB-IN 610
ADJ-RIB-IN 610
650
650
650
POLICY
LOC-RIB 620
GLOBAL RIB 630
TCP CONNECTION 602
660
660
660
POLICY
ADJ-RIB-OUT 640
ADJ-RIB-OUT 640
ADJ-RIB-OUT 640

FIG. 6

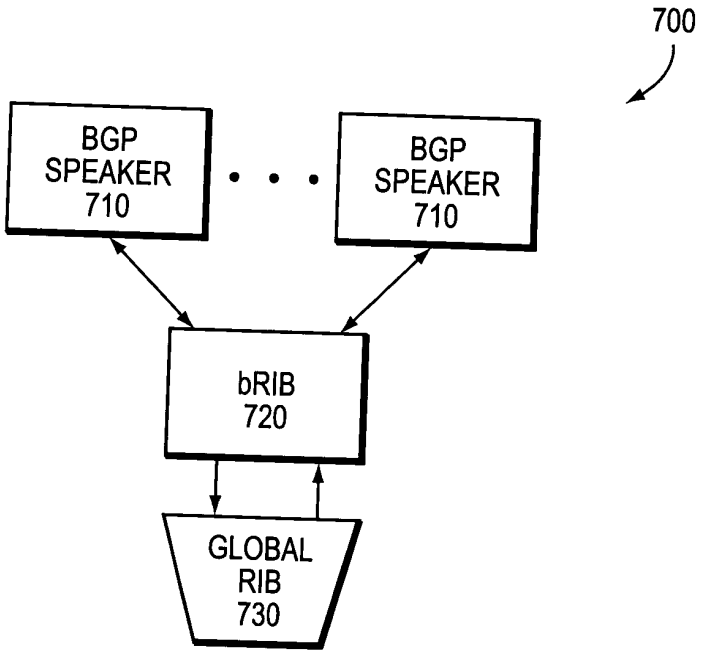

FIG. 7

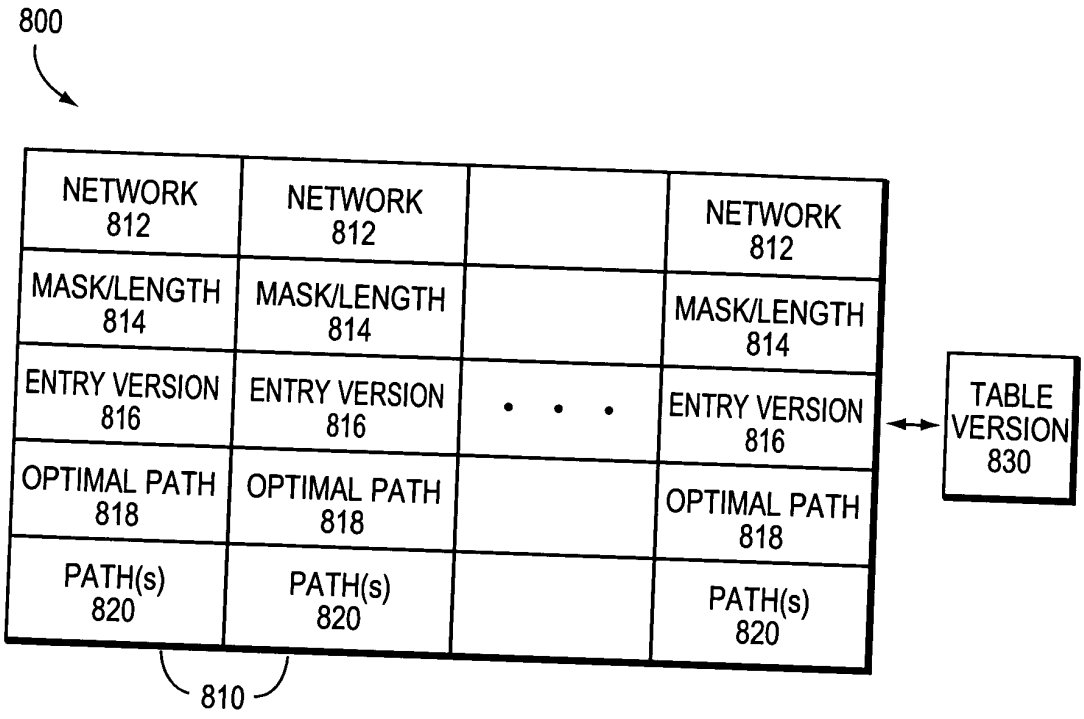
800
NETWORK 812
NETWORK 812
NETWORK 812
MASK/LENGTH 814
MASK/LENGTH 814
MASK/LENGTH 814
ENTRY VERSION 816
ENTRY VERSION 816
ENTRY VERSION 816
TABLE VERSION 830
OPTIMAL PATH 818
OPTIMAL PATH 818
OPTIMAL PATH 818
PATH(s) 820
PATH(s) 820
PATH(s) 820
810

FIG. 8

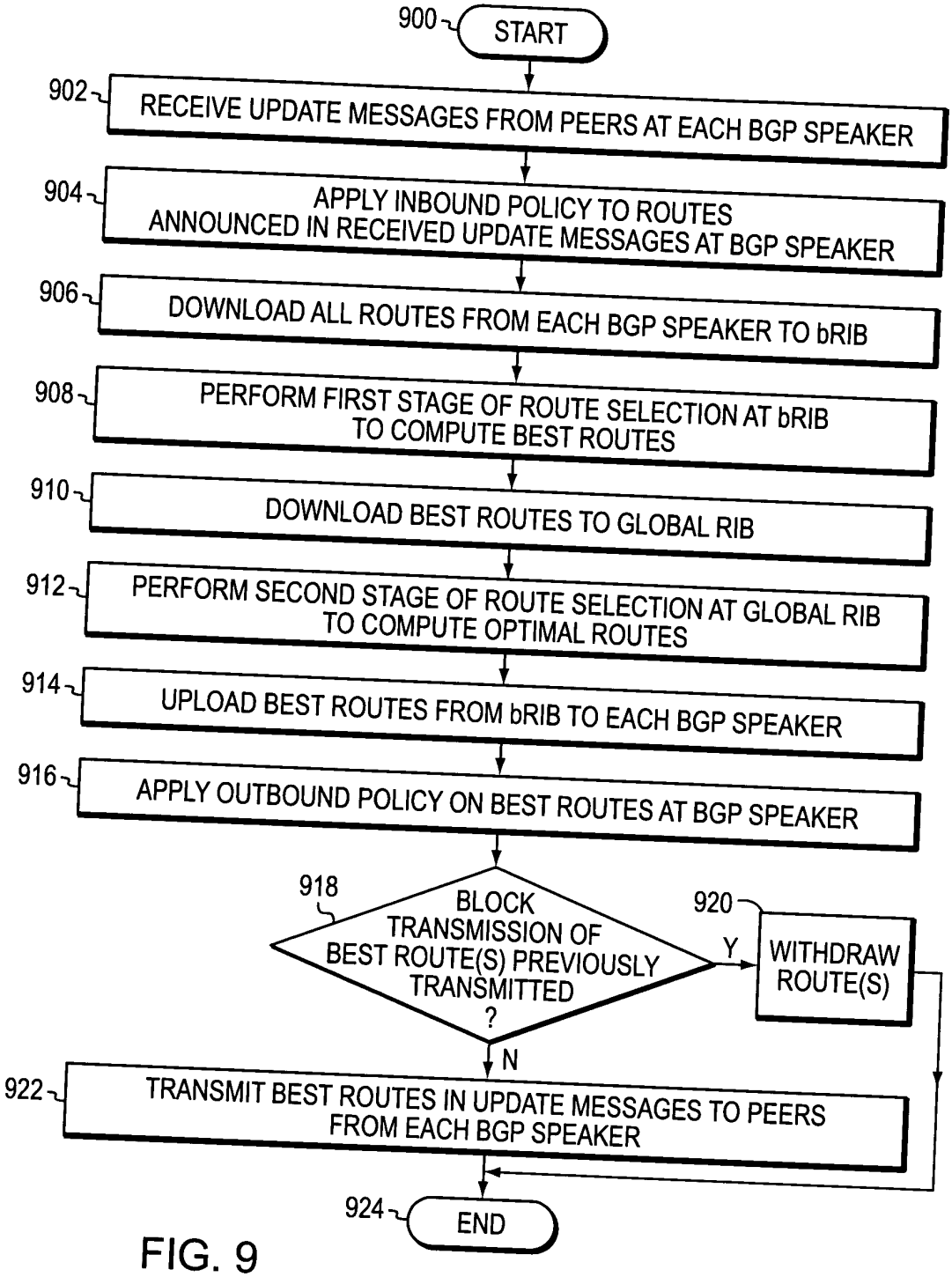
900
START
902
RECEIVE UPDATE MESSAGES FROM PEERS AT EACH BGP SPEAKER
904
APPLY INBOUND POLICY TO ROUTES ANNOUNCED IN RECEIVED UPDATE MESSAGES AT BGP SPEAKER
906
DOWNLOAD ALL ROUTES FROM EACH BGP SPEAKER TO bRIB
908
PERFORM FIRST STAGE OF ROUTE SELECTION AT bRIB TO COMPUTE BEST ROUTES
910
DOWNLOAD BEST ROUTES TO GLOBAL RIB
912
PERFORM SECOND STAGE OF ROUTE SELECTION AT GLOBAL RIB TO COMPUTE OPTIMAL ROUTES
914
UPLOAD BEST ROUTES FROM bRIB TO EACH BGP SPEAKER
916
APPLY OUTBOUND POLICY ON BEST ROUTES AT BGP SPEAKER
918
BLOCK TRANSMISSION OF BEST ROUTE(S) PREVIOUSLY TRANSMITTED ?
Y
920
WITHDRAW ROUTE(S)
N
922
TRANSMIT BEST ROUTES IN UPDATE MESSAGES TO PEERS FROM EACH BGP SPEAKER
924
END

FIG. 9